

Hobbies

WEEKLY

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SUPPLEMENT DESIGN
FOR A DOLL'S CRADLE

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A SMALL MODEL VIKING SHIP

It is now some little time since the Danish Viking ship 'Hugin' visited these shores to commemorate the landing of Hengist and Horsa on the Isle of Thanet some 1,500 years ago. Many thousands of holiday makers gave the 'Hugin' a tremendous welcome when she came up the Thames. She later visited many seaside resorts and received enthusiastic welcome from all those who had the privilege to see her.

We feel certain there are many model makers who would like to make a model of a Viking ship, so in this issue we are giving a full-page pattern sheet of all the necessary parts, as well as full instructions for building the ship seen in our illustration Fig. 1.

Historical

The length of the model is 11½ ins., its beam just on 2½ ins. and its height from keel to mast tip 6½ ins. Before proceeding further, it might be a good plan to give our workers a few particulars of one of these interesting ships of northern origin. Oslo has two well-preserved specimens of Viking ships, both dating from the ninth century A.D.

One of these, named the Gokstad ship, was found in a burial mound near Sande Fjorde in 1880. This vessel is a large double-

ended open boat, 79ft. long, with a breadth of 16-8ft. She is high at stem and stern but lies very low in the water amidships.

The ship is built of oak with heavy external keel, and the planking consists of sixteen strakes a side laid on clinker-fashion.

The Gokstad ship pulled sixteen oars a side, each about 18ft. long, and these projected through small circular oarports cut in the side of the vessel some

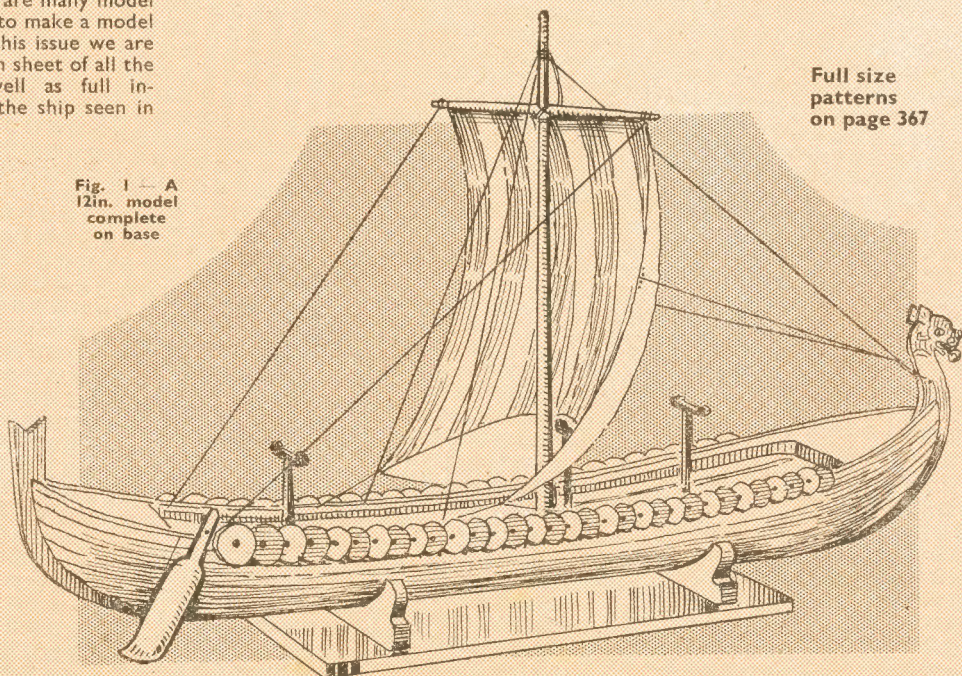
18ins. below the gunwale. Steering was effected by means of a steering paddle set on the starboard quarter and controlled by a tiller stepped in its upper end.

A very striking feature of the ship is its figure-head in the form of a dragon with large open eyes, curiously pointed ears and wide-open mouth with rows of large teeth showing above, and below a gracefully curled and hanging tongue. This figure-head extends to more than 14ft. above the level of the water.

So much then for a brief description of a Viking ship. Now we intend continuing with the construction of our model. The first piece to prepare and cut will be the main centre keel upright (A), see patterns on the sheet.

It will be understood from the latter that the full length could not be shown, so the two halves are given with a centre

Fig. 1 — A
12in. model
complete
on base



Full size
patterns
on page 367

line to which they must be pasted up on the wood. When pasting the pieces together see the lower keel line is level and in alignment.

The Hull

Wood $\frac{1}{8}$ in. thick is used for this. For the head at the bow of the boat, an extra piece of $\frac{1}{8}$ in. stuff should be glued on each side to the dotted line, so it may later on be carved in simple fashion.

To form the hull of vessel, two pieces of soft wood such as American white-wood, if this is obtainable, is cut $10\frac{1}{2}$ ins.

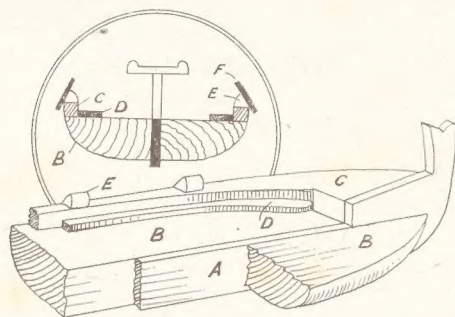


Fig. 2—A section and cut-away view of hull

by $1\frac{1}{8}$ ins. wide by $\frac{1}{2}$ in. thick. On the top surface of one piece stick down the two halves of the pattern (B) from the pattern sheet, joining them up to the centre lines as before advised. Cut round the curved outline with the fretsaw and clean round the edge with glasspaper. Lay this on the second piece (B) and mark round it and cut out similarly.

Both pieces are now to be shaped with rasp, file and glasspaper to the section shown on the pattern sheet and in the two diagrams given in Fig. 2. The larger of these two diagrams gives in section form the various pieces as they are glued up and shaped to form the hull of the ship. The circled diagram in Fig. 2 gives a midship cross section of the hull, with the upper deck pieces attached and the true position of the shields and their fixing blocks.

A good deal of the shaping of pieces (B) can be finished off when they are

actually glued in place to the keel piece (A). Care must be taken to get the shaping symmetrical. This can be checked from time to time by viewing the hull from end on at the bow and at the stern.

The next two pieces to make to complete the hull are shown as (C) on the pattern sheet. Here again two halves are given which must be stuck down again to $\frac{1}{8}$ in. wood. Follow out the previous instructions regarding cutting and gluing up, but now note that the top surface must be shaped down towards

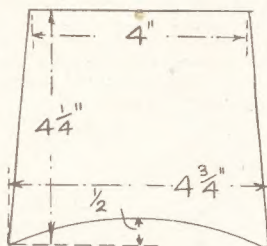


Fig. 4—The sail plan

the centre from the bow and stern, as shown at side view of piece (C) on the pattern sheet.

This gives the necessary sweeping and shapeliness of the whole side view, and needs to have careful attention. When the two parts are glued on, the outside surfaces can be further glasspapered to merge properly with the lower shaped pieces.

At each side of the ship and glued inside the pieces (C) just mentioned, are the $\frac{1}{8}$ in. thick strips (D) seen on the pattern sheet. Half only of the piece is given, but as it is of so simple an outline it can be traced off full size from the centre line given and transferred to the wood. The two pieces can be cut together at one time by pinning the two layers.

The shields alongside the ship are cut from thin wood or card to the pattern given, the outline only, of course, being

cut. The remainder of the circles completing each shield will afterwards be drawn in or slightly recessed with the carving tool. The shields are held to the sides of the ships by the shaped blocks (E), cut $\frac{3}{8}$ in. long from $\frac{1}{8}$ in. square blocks rounded at one angle, as seen in Fig. 2.

Paddle and Support

The steering paddle, given full-size on the pattern sheet, is cut from $\frac{1}{8}$ in. wood and rounded off on its outside edges, while the projecting pin is rounded and bored for fixing to the side of the ship.

The upright T-shaped supports are made in two parts, as seen at (H) and (I) on the pattern sheet. Wood $\frac{1}{8}$ in. thick would answer for these three additions which are let into the centre of the keel piece of the hull, see also Fig. 3. The mast is 6 ins. long and is made and shaped from $\frac{1}{8}$ in. round rod. It must not taper much towards the top, as can be seen in the sketch Fig. 1.

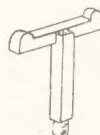


Fig. 3—The T support

The cross spar to take the sail is given full size on the sheet and shows how it is tapered both ways from the centre from $\frac{3}{8}$ in. rod.

The sail outline is given in Fig. 4, and should be made from some thin cotton or silky material and lined up with reddish brown stain. It is lashed in place to the mast with running lines to the deck and fixed by tiny eyelets to the deck and to the keel head.

All the woodwork should receive a light glasspapering before being coated with dark stain. The deck and seat portion inside should be lighter. The shields should be painted alternately light and dark, and short brass pins let in to mark their centres.

A simple form of stand for the model should be made from $\frac{1}{2}$ in. or $\frac{3}{8}$ in. wood. Dimensions for the base (J) are given on the pattern sheet, while keel supports are given as (K). Two of each will, of course, be wanted to glue to (J) in the position shown by the dotted lines. The stand would look well painted glossy black. (244)

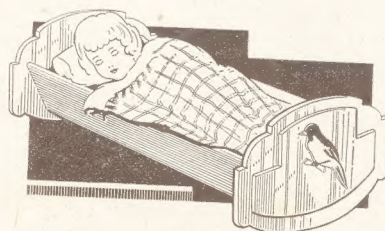
From THE EDITOR'S Notebook—

GREAT interest was shown in our articles on puppet making a little time ago and there is now an increasing popularity for those quaint figures manipulated by strings or the fingers of the hand. The subject has even been televised, and the opportunity to show their ability fell to 15-years-old Bruce Ernest of Greenford and 13-years-old Paul Abigal of Sudbury. They only took up the hobby about a year ago, but now they have over 30 puppets of various kinds ranging from a dancing girl and a pianist, to a seal which balances things on its nose, and a skeleton which falls to pieces.

Their variety show, which they have performed at children's parties and similar events, now totals 14 individual

acts and even includes a circus with the traditional comic horse.

I EXPECT many readers have already seen the film *Treasure Island* and examined with interest the ship *Hispaniola* which takes such a part.



Their interest, of course, is in comparison with the model of it which they can make from our design sheet and Kit (No. 2852) published in June last. Even apart from the film there are probably some who saw the actual ship whilst on holiday at Scarborough. It was bought by the Corporation and adapted as an Exhibition Ship. Those who saw it will have an added incentive to make a model from our design.

THE Doll's Cradle shown can be made from the patterns given with this week's free sheet and the Kit (No. 2862) of planed wood. You can purchase the Kit from any Hobbies Branch for 5/4 or 6/2 post free from Dereham.

The Editor

A novel working model to make of a WAREHOUSE GOODS LIFT

THIS working model will provide much interest to youngsters, and some little puzzlement to those unable at first to understand exactly how it works. The mechanism is very simple, and unlikely to go wrong, being founded on the gravity principle. Briefly, a lift rises and falls in the lift shaft provided in the model building. A weight causes it to rise, and a second, and more heavy weight, causes it to fall and that is all there is to it.

Fretwood or substitute plywood, can be used for making, with a piece of thicker wood, say, 1in. deal, for the base. Cut two sides as at (A) in Fig. 1. Make the tenons of these 1in. long and $\frac{1}{2}$ in. in from the ends. They can be $\frac{1}{2}$ in. deep to fit securely in the baseboard.

The Shaft Side

The right hand side is left plain, the left hand one is divided into halves by a pencil line down its middle, as shown by the dash and dot line, the left half being one side of the lift shaft. Down the centre of this half two strips of $\frac{1}{2}$ in. thick wood are glued, $\frac{1}{2}$ in. apart. These provide a central groove as a guide to the movement of the lift. The strips are short of the top by just $3\frac{1}{2}$ ins.

At the top, cut a slot $\frac{1}{4}$ in. by $\frac{1}{2}$ in., as shown. The cross lines on the right hand half of the side show where the floors

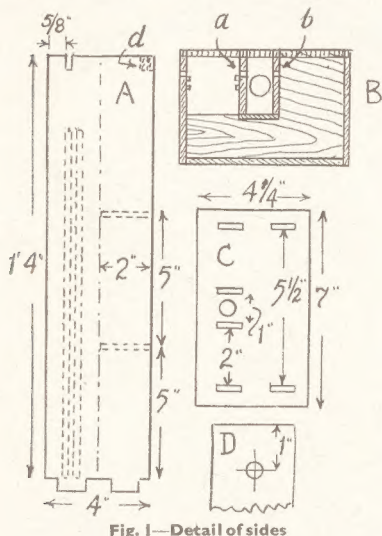
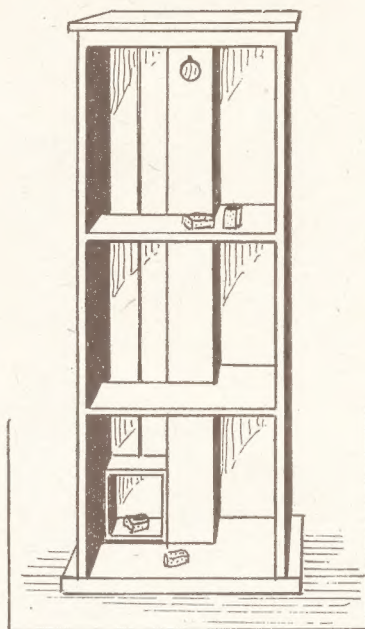


Fig. 1—Detail of sides

come. Now take a look at the plan view (B). Here it will be seen that two narrower strips of wood, each 2ins. wide, are fitted, separated by a space of 1in.

This space is the weight shaft, down which the weight descends when drawing the lift up. Provide these two strips, lettered (a) and (b), with 1in. tenons at their bottoms. The strip (a) forms the right side of the lift shaft, as the plan reveals, and should have



similar strips of $\frac{1}{2}$ in. wood glued down its middle exactly the same as was done for the other side. For lift guides a slot is cut at the top of both, to correspond with that at the top of side (A), but the slot in strip (a) is made $\frac{1}{2}$ in. wide to allow the lift cord to pass, as will be noted later.

The Base

The base (C) is cut to dimensions given. Lines, $\frac{1}{2}$ in. apart, are marked across the base, where shown, at $\frac{1}{2}$ in. from each end, also for the strips (a) and (b). On these the position of the 1in. mortises can be set out and cut. Those for the sides are $\frac{1}{2}$ in. from the front edge of the base, so that the sides will come $\frac{1}{2}$ in. short of the back edge and leave room for the back of the model to be nailed on. In the centre of the weight shaft bore a $\frac{1}{2}$ in. hole through the base.

All parts can now be glued to the base and the back, a plain piece of wood, 6ins. wide and 1ft. 4ins. long, fitted in place. Nail strips (a) and (b) to the back, and ensure that the sides of the lift shaft are truly parallel to each other by drawing pencil lines on the back as a guide. Finish off this part by nailing a $\frac{1}{2}$ in. square strip of wood across the front, at the top, as shown (d).

Two Floors

The two floors can now be cut. These measure 4ins. by $5\frac{1}{2}$ ins., with a piece 2ins. by $3\frac{1}{2}$ ins. cut out to leave space for the two shafts. These can then be nailed across, or nailed to side fillets instead if the wood is too thin. It would be

better here, perhaps, to cut these floors from $\frac{3}{4}$ in. deal, they would be more substantial.

Across the slots in side (A) and strips (a) and (b), a piece of $\frac{1}{4}$ in. by $\frac{1}{2}$ in. wood is to be glued, to which the pulleys over which the lift cord passes, can be fitted. This is shown in position in Fig. 2 (E). Place it across temporarily, and pencil lines on it exactly in the centre of the lift and weight shafts.

Pulleys

Small metal pulleys are now fitted to rotate easily on round-headed screws. Position these so that the cords passing over them drop down the centre of both shafts, as shown in the diagram. This being satisfactory, the wood fitting with pulleys, can be glued across.

The lift (G) is made up to sizes given from thin fretwood. So far as the width is concerned, it would really be best here if it were made about $\frac{1}{2}$ in. less to ensure absence of sticking anywhere in the shaft. Exactly at the centre of each side, top and bottom, drive in round-headed screws, partly only, so that when their heads are filed off, pins $\frac{1}{2}$ in. long are left.

These should engage in the grooves on the sides of the lift shaft and guide the lift on its journey up and down. In the exact centre of the top, drive in a tiny screw eye. To this knot a length of fine cord.

Pass the cord over the pulleys and draw the lift up and down to see it moves freely. Let the lift down, then tie a wire hook to the free end of the cord at about 1in. from the top. Cut the

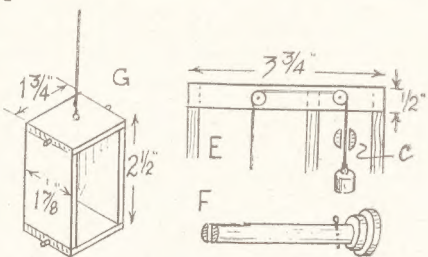


Fig. 2—The lift and mechanism

surplus cord off. From a scrap of some thin material, a bit of old handkerchief would do, make a little pocket affair and hang it to the hook on the cord. In this place some scrap bits of lead until the weight is enough to bring the lift up promptly.

The Weight

Add a bit or two of lead extra to make up for loss in melting, then melt the lead in a ladle or tin, and pour into a wood mould to make a weight, some $\frac{1}{2}$ in. in diameter. Bend up a bit of wire to make an eye and press this into the lead before it sets. Hang this weight on

the cord, and it correct, up will go the lift. A small nail can be driven in the sides of the lift shaft to prevent the lift rising above the top floor.

Suitable Braking

It is not desirable for the lift to go either up or down too quickly, so some form of braking is desirable. This is shown at (F). It is a $2\frac{1}{2}$ in. length of round wood rod, $\frac{3}{8}$ in. diameter, with an $\frac{1}{8}$ in. slot cut through lengthwise some 1 in. long.

To the opposite end of this a knob, formed of two discs, one $\frac{1}{2}$ in. and the other $\frac{3}{4}$ in. glued together, is fitted. A cover piece of wood, $1\frac{1}{2}$ ins. wide, 6 ins. long is now to be cut. This covers the weight shaft above the top floor. In the centre of it, a $\frac{3}{8}$ in. hole is bored, as shown at (D) in Fig. 1. Screw this in position.

Push the brake through the hole in this, and if it is correctly positioned, the cord will pass through the slot cut in it. It will be seen that if the brake is turned a little, it will check the speed (see detail (E), (c)) or stop the lift if turned far enough. A small nail is driven in the rod on the other or inner side of the cover piece, to keep the brake from working out.

The movement here should not be too free, but rather friction tight. A

small cloth washer, between the knob and cover piece will help if the brake does move too easily. This being satisfactory, cut and fit two more cover pieces over the weight shaft on the ground and first floors.

Prepare a few model bales for the lift to convey up. These can be made of cardboard, and should measure about 1 in. long and $\frac{3}{4}$ in. square at the ends. Cover them with paper, or glue material over them to make them look more real. Needless to say they must be light in weight. A test should now be made, and if all is satisfactory, the lift should raise the bales up, the speed being controlled, as far as may be necessary, by careful movement of the brake.

Counterbalance

To ensure return motion, place some bits of lead on the lift until the weight is sufficient to overbalance the other weight on the cord and bring the lift down again. Add a bit or two extra, melt, and cast into oblong form. This can have paper or material glued over it to hide its composition.

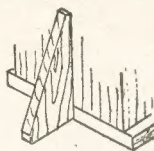


Fig. 3—Back struts

It will now be seen that when the lift is up, it is only necessary to include the weighted bale amongst the rest to send the lift on its downward journey again, and to those not in the secret of the loaded bale, the whole thing works apparently on its own.

Steady Struts

It may be found that the model tends to tilt over backwards when working. If so, steady it by gluing to the back a suitable wood strut, as in Fig. 3 and provide a lid to cover the top. Do not fix the lid but let it just lay on. Corner pieces of wood, glued to it underneath, will keep it in place. The completed model can then be nicely painted and form an interesting piece of work.

So far as the wood is concerned, it may be added that few readers will wish to employ good quality fretwood for such a job. Any of the substitute plywoods, or, of course, the actual plywood, will be better employed. For the floors and top pieces, $\frac{3}{8}$ in. matchboarding would do nicely.

In fact, except for the back of the model, the matchboarding could be employed throughout, as long as the interior widths of the lift and weight shafts remain unaltered.

For dimming lights or controlling model speeds use a RESISTANCE CONTROLLER

THIS easily-made resistance controller can be put to a number of uses. It can be used to control the speed of electric trains or any model operated by an electric motor. It may also be used as a dimmer with one or more electric bulbs, or to adjust the charging rate where the constructor uses a small home charger to keep his batteries in order.

It is, however, in controlling motors and lights that it will probably be of most general use.

Cutting the Parts

The controller is built on a wooden base about $2\frac{1}{2}$ ins. by $2\frac{1}{2}$ ins. by $\frac{1}{4}$ in. thick. On this, mark off a semicircle with a radius of about 1 in. and divide this into nine or ten equal sectors. At each point screw in a small brass round-headed wood screw, as shown (A) in Fig. 1. Do not drive these screws in completely yet.

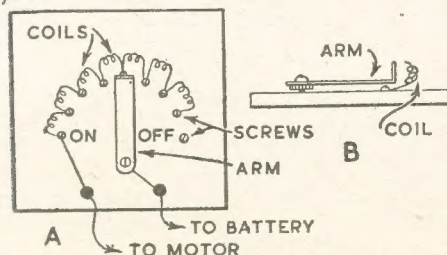


Fig. 1—Layout of circuit and side view

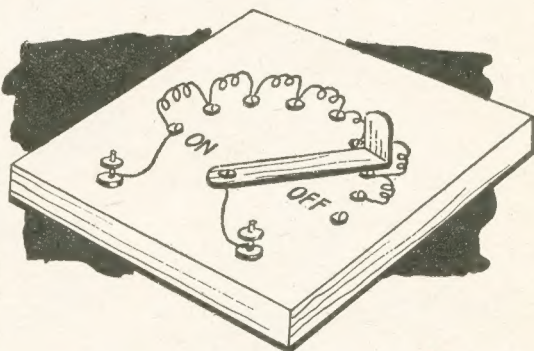
For preference the arm should be cut from fairly stout brass, but other metals will do. It is about $1\frac{1}{2}$ ins. long and $\frac{3}{8}$ in. wide, with one end turned up to form a handle. Pivot it in the centre of the semicircle, using another screw with a washer, as shown at (B). Place a loop of wire round under the washer. The arm should swivel easily so that it can touch any of the screws.

Two small terminals are mounted on the base. The loop of wire mentioned goes to one. The second is connected to one screw in the semicircle, marked 'ON', in Fig. 1.

As the resistance coils are in the open it does not matter if they become hot and consequently any thin wire can be used. Copper wire of 32 to 26 S.W.G. can be employed, or a length of ordinary flex bared and untwisted so that single strands can be taken out.

One contact screw is left vacant to be the 'OFF' position. Between each pair of the other screws connect a spiral made by winding about 2 ins. of wire round some small object such as a slender pencil. As the spirals are put on, tighten the screws home.

To use the controller, it is only necessary to connect it in series with one of the leads to the model. Cut one lead and



join the two ends thus formed to the terminals (see Fig. 1). When the switch is in the 'OFF' position no current will flow. The current will increase as the arm is moved round, reaching maximum at the 'ON' position, with no resistance in circuit.

Resistance

If the controller gives too abrupt operation the coils are of too high a resistance. Shorten them to 1 in. or so of wire each, or use thicker wire. In the event of insufficient control being achieved, the resistance is too low and thinner wire must be used, or the coils wound so that each contains more wire.

It should be quite easy to obtain proper results, when the model can be controlled as desired by turning the arm.

A rotating disc gives varying colours in a novel FLOOD-LIGHTED VASE



ALMOST every house has some dark corner or recess which could be made more cheerful. As a change from the more serious forms of model making, why not try your hand at fashioning this simple gadget for brightening up the home?

A glass flower vase or jug, filled with water, is placed on a wooden stand in which is housed an ordinary electric lamp. When the current is switched on, the water in the vase begins to glow with a variety of ever-changing colours, merging from pink to mauve, purple, blue, green, yellow, orange, and so on. The effect is very beautiful and fascinating to watch, and to the uninitiated not a little mysterious.

Revolving Disc

Actually, however, the effect is quite simple to produce. The colours are painted on a disc of celluloid which pivots above a 40 watt electric lamp, the heat from which, rising through a number of sloping vents cut in the celluloid, cause it to rotate slowly. A piece of white card placed above the revolving disc and at an angle to it, reflects the light into the water which consequently appears to glow with ever-changing hues.

The Materials

The chief materials required are: a piece of celluloid from which to cut a disc with a 3in. diameter, an electric lamp (40 watt), a piece of stout white card, batten-holder and flex, and a length of fairly stiff wire. The stand could be a framework with cardboard panels, or made entirely from battens and plywood. Detailed measurements

are not given, but it is suggested that the overall height should be about 15ins. and the width at base 10ins.

In the model seen in the photograph and diagram, the head, or top section, to which the cardboard reflector is fixed, was made as a separate unit, but this is not essential.

The Disc

The most important task is making the rotating celluloid disc. It should be approximately 3ins. in diameter and twelve flanges should be marked out as seen in Fig. 2, each being about $\frac{1}{4}$ in. by $\frac{1}{2}$ in. It will be noted that only two sides of the flanges are cut. Each flange is bent upward along the dotted line to an angle of 45 degrees. Celluloid is not easy to mark, so a good plan is to make a drawing of the flanged disc on paper, then paste on to the celluloid. A small chisel (or a sharp-

ened screwdriver if no chisel is available) is suggested for cutting the flanges.

Colouring Celluloid

Colouring the celluloid may give a little trouble, owing to the fact that water will not readily 'take' to the material. After much experiment it was found that if the celluloid was held in front of an electric fire, and transparent colours or coloured inks used (such as for colouring photographs), the colour dried as soon as it touched the celluloid.

Four different colours will be sufficient. It is immaterial if they are applied unevenly, or in what design or pattern they are painted on to the disc. In order to guide the rising heat from the lamp through the flanges, a band of stout paper 1in. in width should be fitted tightly around the edge of the disc.

The Stand

The stand may now be made on the general lines of the one illustrated, but there is plenty of scope for some modified design. The wire pivot arm should be fixed to the wall of the front panel, as seen in Fig. 1. The end of the wire which acts as the actual pivot should be filed to a sharp point. It is, of course, vital to determine the exact centre of the disc. Should the disc not balance correctly, appropriate trimming of the paper band should rectify matters.

The slot which permits the light rays to fall on the cardboard reflector should extend from side to side of the roof section, and may be anything from $\frac{1}{2}$ in. to 1in. in width. By altering the width of this slot (or its position in relation to the celluloid), a number of different effects can be originated.

Various Effects

For example, if the slit is near the outer edge of the revolving disc, the colours will change more rapidly, giving the effect of boiling water with the colours rising upwards. If the slit is

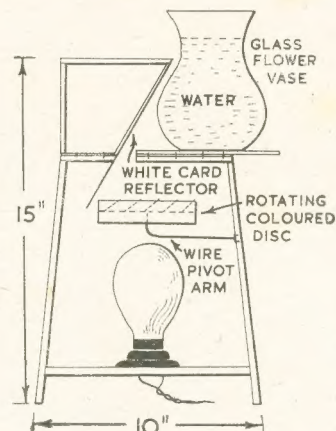


Fig. 1—Section showing parts in place, with card reflector

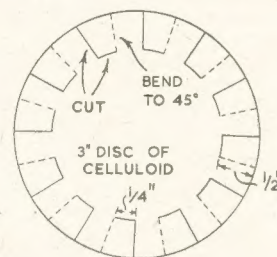


Fig. 2—The disc marked for cutting and binding

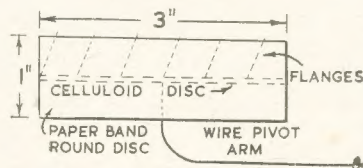


Fig. 3—The disc on its wire pivot point

near the centre of the disc, the colour changes will be much slower, the various hues changing almost imperceptibly.

The stand should be adequately ventilated, but any vents should be screened so no direct light escapes except by the slit referred to. (221)

**HOBBIES HANDBOOK
FOR 1951 WILL BE ON
SALE THIS MONTH**

A practical example of how to undertake BOOKBINDING

THE previous article on bookbinding described a method of binding single section booklets. No doubt many readers have practised this technique and are anxious to progress to the binding of multi-sectioned books. The method here described is fundamentally similar to that used previously, but differs in one or two small yet important details.

It is particularly suitable for the binding of Penguin and Pelican books. These publications, unfortunately, spoil

The stitch, however, must be varied, as shown in Fig. 1. This causes each consecutive section to be knotted at a different part of the spine, and ensures that a bulge will not form. Whichever stitch is used, however, care must be taken that the reef knot is tied over the inner thread and that no knots are allowed to slip through to the outside of the spine.

Stapled or Wire Stitched Books

Occasionally one comes across a book which has not been sewn at all, but was, during the war, stapled or wire stitched by virtue of the prohibitions imposed upon labour and materials at the time. The procedure for rebinding these books differs only in respect of the manner of sewing to the mull and this is, therefore, fully described separately here.

In order to remove the cover, it will have been found necessary to remove the staples or wire stitching. This has the effect of literally allowing the book to fall to pieces. The book is sorted out into its separate sections and the pagination checked.

Each section must be fastened to the hinge as described above, but each one is taken separately. Sections are taken in order of pages, and carefully sewn as close to their predecessors as possible and square with their neighbours.

'Tipping'

The last page of every section except the very last in the book is treated by pasting a $\frac{1}{2}$ in. line along the inner edge nearest the spine. When this has been done, the book is closed and the paste will cause each section to join to its neighbour at the spine, and make the book a 'whole' instead of a number of separate sections. The pasting process used here is known as 'tipping' and will be referred to again in the later stages of the binding.

The rest of the binding proceeds as follows, irrespective of the method used for the sewing.

The Endpapers

Four sheets of cartridge are now required, each to be cut to the same height as the book, and double the width. They are folded at the centre and pasted together in pairs (see Fig. 2). The two sets of endpapers are when dry assembled inside the hinges, one at the front, and one at the back of the book. They are sewn to the mull through the

division nearest the inside of the book, the same stitch being used as before.

The endpaper next to the first page of the book is tipped in order to join it and the first page, and the endpaper nearest the last page of the book is treated likewise. This prevents an unsightly gap appearing between the endpapers and the book itself.

Cleaning the Edges

Before the boards are cut or fitted it may be necessary to clean the edges in the following manner. The book is placed in a vice or press, with its fore-edge facing uppermost and the vice screwed up tight.

A piece of very fine glasspaper held over a square wooden block is used lightly on the fore-edge to remove all grubby marks. As well as cleaning, this operation may be prolonged in order to smooth away any irregularities in the book edges, of course, it must be repeated with the top and bottom edges of the book.

The Covers

The card covers are now cut to the dimensions described in the last article. They should each be the same width as the front page but $\frac{1}{4}$ in. longer. Each cover is pasted in turn to its respective hinge. Remember to allow $\frac{1}{2}$ in. overlap on top, bottom, and fore-edge, but $\frac{1}{8}$ in. short at the spine.

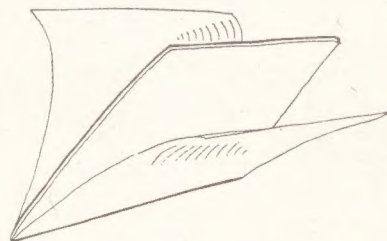


Fig. 2—The endpaper assembly

The width across the spine is now measured and the measuring and cutting of the cloth undertaken. Remember the measurement formula for the cloth:—

Length equals length of book plus $1\frac{1}{2}$ ins.

Width equals width of open book plus width around spine plus $1\frac{1}{2}$ ins.

Covering

The procedure for covering is exactly the same as for a single section binding. Remember to look inside the boards first and ensure that the endpapers have not adhered to the boards because of loose paste.

Do not forget to paste a piece of cartridge paper of the requisite size centrally on the cloth for strength before attempting to cover the boards.

(Continued foot of page 359)

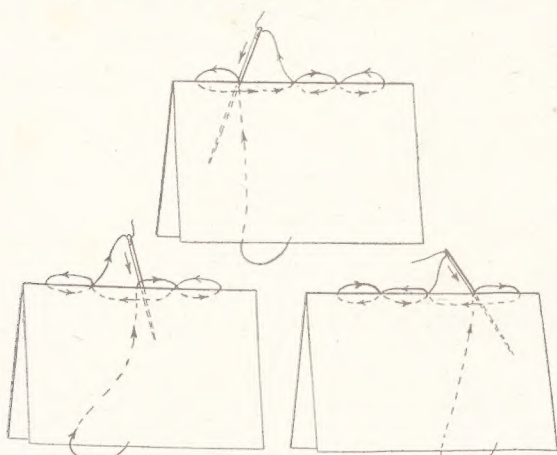


Fig. 1—Diagram of alternative stitches

easily, and this method of binding them is the cheapest and most effective way to render them permanent. It is no exaggeration to say that the handyman can by this means soon build up a first-rate personal collection of books at very little expense.

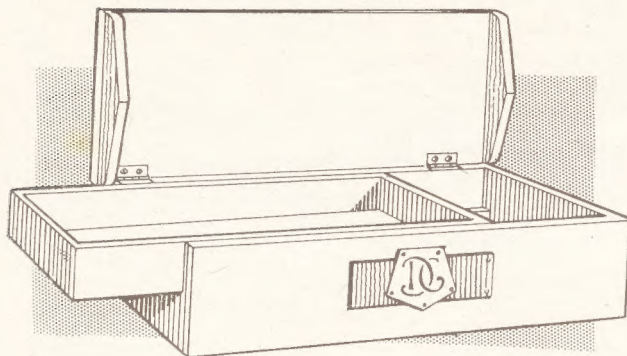
Preparation

A mullled hinge must first be made, as described in the last article in this series. If an old cloth-backed map is available a piece cut to the required size will serve admirably without any further strengthening.

The thin cover is removed from the book and any spare glue adhering to the spine is softened with clean water and wiped off. The mull is folded over the spine as it was for the single-sectioned binding. The book is opened then at the centre of its first section and sewn through this to the mull—exactly as if it were a single section. The manufacturers' machine sewing must not be cut or damaged in any way, and the original sewing holes used as far as possible.

It is necessary to sew through each section of the book in this manner until all are securely fixed to the mull. If there are more than five sections to the book, it will suffice to sew each alternate section only.

Sliding drawer and hinged lid are fitted to this HANDY PENCIL BOX



WE have purposely designed the box illustrated on this page on very simple lines so the worker with the fretsaw and a few tools can make it up easily and quickly. The box is designed on ample lines, being 8 ins. long and 2½ ins. wide. There are two distinct compartments, the top one being designed as a sliding tray to pull out from one end as our sketch, Fig. 1, shows. It will be seen also from this sketch how, when the tray is pushed back into place, it is held secure by a rail fixed to the underside and at end of the lid. A similar rail is, of course, fixed to the opposite end of the lid to make the box look uniform when closed.

If it is intended to carry the box about then a suitable catch should be added to keep it securely fastened. This catch would come just above the monogram plate shown in the sketch. The lid may be attached to the box by a pair of brass hinges, or by a strip of stout tape ¾ in. wide lapping on to the lid ⅜ in. and to the top edge of the side.

Make Good Joints

As before mentioned, the construction of the box is very simple, but it should be impressed upon the worker that the glued joints must be carefully made and strongly put together. Before commencing to make the box the constructional diagram Fig. 2 should be carefully studied.

Note here, for instance, how the ends (C) and (D) go between the main sides

(B), and how the floor (A) drops in between sides and ends and is glued to the runners (E). No joint is thus visible from the outside which makes for neatness of appearance.

Tray Portion

Note, too, how the floor of the tray goes between the ends (H) and is fixed—by glue and fret pins, to the sides (G). All these little points need watching when drawing the various pieces of the article before actually cutting them.

The tray should be made 'full' regarding length, width and height, so it can be rubbed down on a glasspaper board to make a perfect sliding fit. A glasspaper board is just a stout piece of straight-grained wood cut to the size of a sheet of glasspaper with this latter glued down to it flat and even. Such a board will always be found useful for any such jobs as this where surfaces are to be rubbed down evenly with the grain of wood.

To proceed with the box, first mark out the floor (A), 7½ ins. by 2½ ins. by ⅜ in., and the two sides (B), 8 ins. long by 1½ ins. by ⅜ in. Then make parts (C) and (D), (C) being 2½ ins. by 1½ ins. by ⅜ in., and (D) 2½ ins. by 1½ ins. by ⅜ in. Glue these parts together excepting the floor (A) and test them for squareness with a try square or a set square.

Next test the floor with the glued-up rails and see it fits accurately but not tightly enough to burst the joints of the rails. Wipe the four edges of the floor with glue and place the 'frame' over it, gently pressing down until the bottom of the floor is flush with the lower edges of the frame.

Allow the glue to harden, and then make the two runners (E). These are 7½ ins. long by ⅜ in. wide, by ⅜ in. thick. See that the long edges are flat and even after cutting them—our glasspaper board comes in well again for this job. Wipe one side and one edge of the two runners with glue and press them down inside the box as shown in Fig. 2. In this diagram, parts of the sides, etc. have been shown cut away to make construction clear.

Making the Lid

The lid can now be prepared and this is cut from ⅜ in. wood and measures 8½ ins. by 3 ins. by ⅜ in. All our edges should be slightly rubbed to a curve with coarse and fine glasspaper and the end rails (I) then drawn out and cut. These measure 2½ ins. by ½ in. wide and are of quite a simple shape as shown. Glue them to the underside of the lid so that there is just clearance between the ends of the box allowing it to open freely. Fix the lid to the box as suggested.

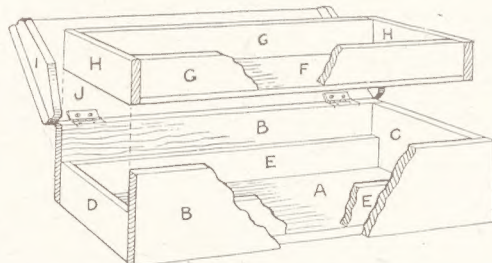


Fig. 2—Cut-away constructional detail

The tray of the box consists of the floor (F), a piece of ⅜ in. wood 7½ ins. long by 2½ ins. wide being required. Glue the ends (H) to this, two pieces, 2½ ins. by ½ in. by ⅜ in. being here wanted. The sides (G) are 7½ ins. by ⅜ in. by ⅜ in., and they are glued to the top edge of the floor. Test the tray to see it runs smoothly, and if it works too stiffly glasspaper it on the sides a trifle.

Hardwood such as beech or mahogany should be chosen for the box if possible, and the finish can be any that will suit these boards. The monogram plate on the front of the box might be of brass or ivory with the initials either cut in or painted on.

Bookbinding—(Continued from page 358)

When the boards are covered with cloth it is most important to wipe down with a clean rag to exclude any air bubble before folding in the edges.

The corners are trimmed across, and it is essential that ½ in. spare cloth is left at each corner. The overlapping cloth edges may now be folded in and pressed well down on to inner sides of boards.

The first and last endpapers are now pasted down inside their respective boards, so as to leave a tidy ½ in. border of cloth on three sides. The endpapers will require smoothing to remove air bubbles.

It is important that the completed book is placed in a press and allowed to dry fully to prevent warping. Only

when it is dry should it be removed and the finishing touches added by printing the name of the author and title neatly on the spine.

A further article on the subject will appear shortly dealing with decorative finish. This will end the series which provides a practical knowledge of the subject.

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A Craftsman's Notebook

Archery is Popular

ARCHERY, or toxophily as it is called, has always been popular as a sport. Besides big clubs, like the Royal Toxophilite Society, founded in 1781, and the Woodmen of Arden, there are many smaller ones who hold regular meetings and contests, and, no doubt, there are lots of youthful enthusiasts enjoying the sport with simple home-made equipment. The name 'Toxophily' derives from two Greek words meaning Love of the Bow.

I see that bows can now be had made of steel, with arrows of aluminium. The favourite, however, has always been Yew (the Spanish or Italian species being best) or a combination of different woods. Ash and hickory are also useful for the purpose. Real craftsmanship goes into the making of the outfit, correct seasoning and expert finishing being necessary for good shooting.

One cannot think of archery without thinking also of Robin Hood and his men, so it will be of interest to mention that I have just seen a photograph of a bow still in existence said to have been actually used by Little John. The usual full-size bow is some 6ft. long, but this giant measures 6ft. 7ins. Further, it requires a pull of 160lb. to draw it to its full extent, whereas the normal type now used requires only 60lb. It is made of spliced Yew and measures 5ins. circumference at the centre.

A Nature Note

A SHORT time ago I was impressed at the way birds, especially tits, conceal their nests. Not all birds are so cautious in their choice of site, however. In fact, I think the thrush is rather careless in this respect.

These birds have built in my garden and one of the most unsatisfactory places chosen was behind a gate leading into a busy street. This particular nest was only 5 or 6ft. from the ground in a corner of the wall near the hinges and I am surprised the frequent opening of the gate did not displace it. Virginian creeper covered it to some extent, but barely enough to hide it.

Nevertheless, young ones hatched out, and I managed, incidentally, to get a fairly reasonable snap of the nest. The position, however, proved to be hopeless—too easy for cats. The young birds survived for a time, then one day the nest was found destroyed, the occupants victims of a four-footed marauder.

Hints for Hikers

IF country rambles take you along roads where there are no proper footpaths you will find it best to walk on your right-hand side, that is, facing the

traffic coming towards you. Approaching vehicles will then be seen as soon as they come into view, allowing you plenty of time to draw well to the side out of the way.

For pleasant travelling remember that a rucksack ought to be carefully packed so softer articles, such as clothing, come next the back. Also, brace it well up on the shoulders, as a sagging pack hangs heavy and uncomfortable. The same applies with just a light haversack slung over the shoulder, a long strap with a heavy bag dangling at the end being cumbersome.

The feet do such a great deal of good work on a hiking holiday that their comfort must be considered by wearing shoes well soled but not tight, and do not choose the occasion for breaking-in

a new pair. Socks with feet too short soon become as unbearable as tight shoes.

To 'Frost' Windows

QUICKEST way to obscure the view through the window of a workshop, garage, or other outhouse to make it more private is to cover it with ordinary whiting. This blocks the view from the outside while admitting a good amount of translucent light, and it is so easy to clean off and renew.

A little Paris White is mixed to a thick cream with water, then applied to the glass with an old shaving brush. A pleasing pattern can be added either by dabbing all over with the tips of the bristles or by drawing the brush across in different directions.

The Craftsman

A Galleon Lamp—

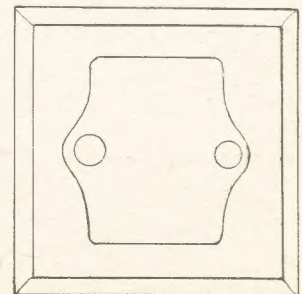


The actual base, however, is duplicated as you see in the diagram, the front hole in the upper base being made to hold the halfpenny as usual, but the hole behind containing the pillar forming the actual lamp standard.

This is a wooden tube turned to represent a ship's spy-glass, and realistically painted before being glued in place. The flex, of course, is carried through this tube, and the normal electrical fitting for holding a bulb is added to the top.

The base is of double thickness with the lower portion of wood having a rounded edge, as can be seen. The shade is made from ordinary parchment, but is added to be more in keeping with the old-time ship below it.

Indian ink is used to give the impression of an old ship's chart, the one in the illustration indicating a Devon coast. The light drawing of the ship is added to the shade with the four cardinal points of the compass shown also. This is but one of the many ways in which the ship galleons of our designs can be converted to even more attractive form. (207)



THE picture shows a novel method of using one of the models of our galleons. The model itself is of our Design No. 2778 of the Ha'penny Galleon, and is constructed in the ordinary way, before being converted into an attractive and unusual table lamp.

Keep your fuel dry and accessible by building a BRICK COAL BUNKER

THE building of a brick coal bunker is not so difficult as might be imagined and the durability of it as compared say, with the galvanized variety recommends it to the handyman. The sketches show the construction details for a bunker that will hold about 1½ tons of fuel.

First prepare the site. You need an area of 8ft. by 5ft. to take the actual walls of the bunker, which measures 7ft. 6ins. long by 4ft. 2ins. wide. Dig the ground area to a depth of 9ins., put down rubble and ashes to take footings of two bricks' depth and two bricks in width. Then fill in the whole area with rubble.

Broken bricks and stones or any small pieces of hard material will be suitable for this purpose and when it is all rammed well down, pour in cement in the proportions of one part cement to two parts of sand and three parts of shingle. Now smooth this all to a nice top surface, leaving, of course, the brick footings standing above the surface by about 3ins.

one part cement to three parts of sand) you will soon get into the hang of the thing.

You will find, too, that corners have to be built first preferably about three 'layers' high and then the remaining bricks will fill in and around them quite easily. Half bricks are, of course, necessary at various stages but, with a little knack in cutting with a trowel you will find that bricks can soon be shaped to the size needed.

Complete the back and two side walls first and then deal with the front which needs two apertures through which to shovel the coal as required. This need not prove a difficult task. Place two pieces of stout timber over the top of each aperture and then build the bricks round them and over them.

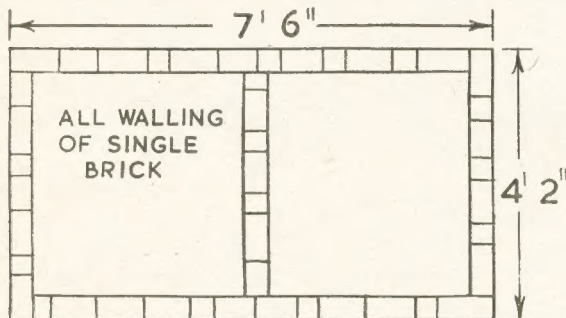
The baulks of wood need to be strong and 3 by 3 is best, seeing the weight of the bricks that they will have to carry is not inconsiderable. A little trial and error might be experienced in this tricky part of the job, but it will not be long before the shell of the coal bunker

types of fuel to be stored if required, and the partitioning wall gives great strength to the whole structure.

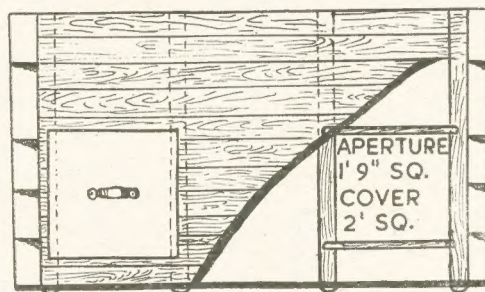
The bunker slopes from a back height of 4ft. to a front height of 3ft. and it is proposed to cover the top with wood and make two filling apertures, one for each half of the bunker.

Four pieces of timber 4ft. 6ins. long and 3ins. square are needed to fit across the top of the roof where they can also serve as sides for the apertures. As indicated in the diagram, these pieces of wood must be placed on the brick edges back and front and bricks built around them to bring the whole of the back and front walls level to the edge of these timbers.

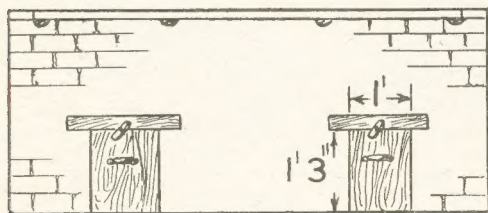
The next job is to roof the bunker with boards and it would be well to make the front edge a very solid job for the coal delivery man is certain to rest his sacks here to empty them. Covers for the two apertures can be made to fit snug in grooves. These grooves are formed quite naturally by the edges of the boarded roof where it is cut away to



Plan of the brick walls



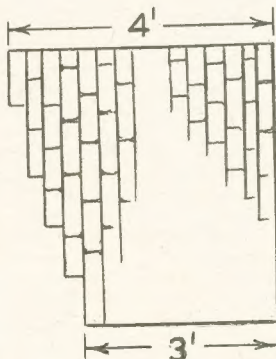
Cut-away roof view to show framing



Front elevation with doors



Door grooves made in cement



The side wall

let these covers fall into place.

Hinged lids are not advisable, for careless banging back of a lid will, in time, inevitably damage both the wooden top and its hinges. Instead, fit two pull handles one on each of the covers to enable them to be lifted out and replaced quite easily when necessary. The whole of the top can now be covered with roofing felt and the two covers similarly treated, allowing about 1½ins. overlap to prevent rain seeping through on to the fuel.

The front apertures are not hinged either, but slide in grooves. At the base of the two apertures, make a cement channel wide enough to enable the doors to slide in and out easily. These fasten very simply on a button fixture attached to the strut at the top, and a handle similar to the type used on the roof covers is fixed to each door to make for easy manipulation.

The whole job can be improved if the brickwork is finished off with rough cast (small pebbles and fine cement, washed or brushed on), and all woodwork painted black.

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Next begin laying the bricks for the walls. It will be as well to make a large set square out of rough pieces of timber and you will find that this, together with an improvised 'plumb line' and a spirit level will enable you to build the walls square and level. By laying the bricks in place first, about six at a time, before cementing them (with a mix of

is completed.

You will have noticed from the drawings that the walls are all of one-brick thickness throughout. To add strength to the longer back wall it is divided in its length and a brick partition built across the bunker from back to front. This gives two compartments to the bunker, enabling two different

A PHOTOGRAPHIC ALPHABET

O for—

Orthochromatic

THIS is a word which you will come across quite a lot in photography, for it is often marked on the side of film cartons and plate boxes.

It refers to the degree to which the enclosed material is sensitive to various colours in the spectrum. 'Ordinary' films respond to the 'colours of the rainbow' in a rather untruthful way, certain of the hues coming out too dark and others too light. This kind of material can be assisted by using a tinted piece of glass before the lens, called a filter, which helps to improve the rendering.

Certain films and plates have, as it were, the filter included in the emulsion and give a truer rendering of greens, and yellows—two hues which the ordinary material brings out very poorly. This improved material is called orthochromatic.

There is better material still, however, called 'Panchromatic'. This gives a very fair rendering of *all* the hues, 'pan' meaning 'all' and 'chromatic' denoting 'colour'.

P for—

Printing Paper

THIS is the general name given to a whole range of sensitive papers upon which a positive print can be obtained from a negative. The three main kinds are (1) Printing-out paper, (2) Gaslight and (3) Bromide paper.

With the first kind (unobtainable during the war but now coming back) you put the negative in a frame with a sheet of the paper at the back. The two are then put out in daylight and the picture slowly appears on the paper, which you can examine from time to time by opening half the back of the frame. When dark enough, the print is 'fixed'.

Gaslight paper (see earlier paragraphs) is printed by artificial light. Nothing in this case appears till the sheet is put in a developer, when the picture comes up like the image on a plate.

Bromide paper is in effect a very sensitive gaslight paper. It only requires a fraction of a second exposure and must be developed in a yellow light.

All these papers are made in various grades to suit different negatives and in a range of surfaces like smooth, matt (rough) and velvet (fairly rough). The great art in using printing paper is to find the correct grade of paper for the negatives in question.

Pin Holes

SOMETIMES when you look closely at a print you will see that it is covered with minute disfiguring black dots. An examination of the negative will show that it, too, is covered with dots, but dots of clear gelatine. These are spoken of as 'pinholes' and are caused by dust being on the film while it was being exposed. The light, of course, could not get through these tiny grains with the result that beneath each has been left a similarly tiny unexposed area, which in the fixer becomes a minute clear area.

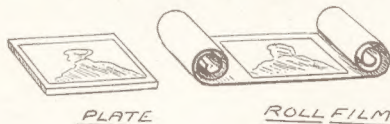
Should the dots be white on the print, then the trouble has been dust on the negative while printing.

Dust is a definite thing that has to be guarded against during taking by occasionally going over the inside of the camera with a soft brush, slightly dampened.

Printing frames should be similarly treated and the face of all negatives given a good dust over before putting in the frame.

Plates

APHOTOGRAPHIC plate is a sheet of glass upon one side of which has been poured the sensitive emulsion and it



goes in the camera in a slide on holders—one plate at a time, except in old time magazine cameras.

Most amateurs use roll films, but plates have certain advantages which if you are taking up photography seriously you should know. Plates are, of course, more cumbersome and weighty to carry about, but against this it is possible to take one or two pictures and develop them, whereas with a roll film one must wait till six or eight have been taken.

Plates, too, seem less liable to get scratches and marks on them—a fault to which roll films are very prone.

A glass plate, too, is on the whole easier handled in development and during printing. All the various speeds and emulsions found on films are also found on plates; indeed, there is a greater range in the latter.

Plates, too, can be obtained in all sizes, $3\frac{1}{2}$ ins. by $2\frac{1}{2}$ ins. being a very popular dimension.

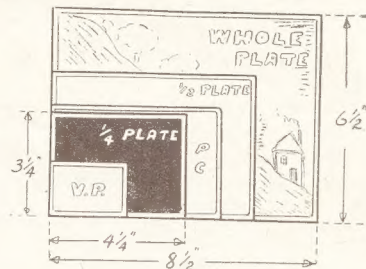
Q for—

Quarter Plate

THIS is not a type of plate but a picture size, quarter-plate material being

obtainable in both plates and films.

Quarter-plate is $3\frac{1}{2}$ ins. by $4\frac{1}{2}$ ins. and is just a quarter (area) of the old time whole-plate which for long studio photographers took as a standard. The



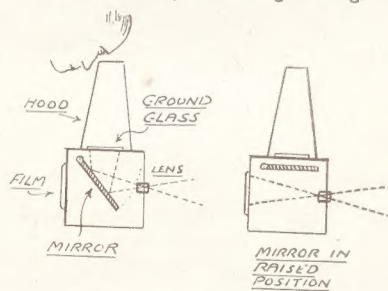
whole-plate is $8\frac{1}{2}$ ins. by $6\frac{1}{2}$ ins. Other sizes are half-plate and post-card. Miniature and semi-miniature cameras of recent years have brought in a whole range of sizes that do not fall under the old standards, e.g. $2\frac{1}{2}$ ins. by $2\frac{1}{2}$ ins., V.P.K., 35 mm. and other sub-sizes.

R for—

Reflex Camera

THERE is no doubt about it but that one of the difficulties of taking photographs with many cameras is getting sharp focus, for it is not easy for beginners, or indeed anyone unless they are taking pictures all the time, to judge distances accurately and quickly. A reflex camera is to overcome this trouble.

Here instead of having to judge a distance and set the estimated figure on a scale, you look down on a sheet of ground-glass the same size as the film. On this appears the picture in front of the lens and by revolving a ring, or



working a lever, the subject you want can be got absolutely pin-sharp in a second or so. This means it will be pin-sharp on the film, too, when you press the release.

The sketch shows how a reflex camera works, the mirror reflecting the rays from the lens up on to the ground glass.

You will probably wonder why the mirror does not get in the way of the rays going to the film and prevent the picture being taken. The secret is that the mirror swings up a split second before the shutter goes, the going up of the mirror and movement of the shutter all being one action actuated by your press of the release.

The final stage for silver soldering is that of SILVER FINISHING

A RECENT article in *Hobbies Weekly* gave some very helpful hints about silver soldering and now the present article goes a stage further and explains some processes regarding the finishing process. This process of restoring the colour and polishing silver articles after hard soldering is quite an art in itself.

When a silver or gold article has been hard soldered the joins will be covered with a hard layer of flux and oxide and the metal will generally be badly discoloured, which is due to the great heat used. All this must be properly cleaned off, the colour restored and the article

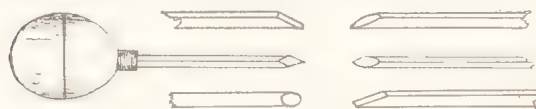


Fig. 1—Shapes of graters for cleaning

polished before it assumes the high class finish which we expect of gold and silver wares.

We will assume that the article we have to finish is made of silver. This is certainly the easiest to work, besides being much the cheapest of the precious metals. It is capable of receiving a large number of different finishes, varying from its natural white to many shades of colour, and also of various degrees of brilliance. The same treatment applies in most cases to gold articles also.

'Pickle'

The first job is thoroughly to remove all traces of flux and the hard crust of oxide which forms when soldering. This is done by placing the article in 'pickle'. Dilute sulphuric acid in the proportion of 1 part of acid to about 8 parts of water is the pickle mostly used by jewellers and silversmiths. Do not, by the way, forget to pour the acid slowly into the water when mixing and never the reverse way.

Before placing the article in the pickle remove any iron binding wire that may have been used to hold the parts together for soldering, as this will make a nasty stain if left on. Leave the metal in the solution just long enough to do the job—a few minutes will generally be sufficient and if the pickle is used warm the work will be done quicker and better.

Warm water can be used to make the

pickle or the glass or china jar containing it can be stood in some warm water. Never use a metal container for doing the pickling in.

Thoroughly wash the article in clean water after pickling and dry well. Jewellers generally use warm boxwood sawdust to place the article in, which absorbs any remaining moisture, afterwards brushing off any of the sawdust.

The next job is to clean any rough edges or other irregularities caused by the process of soldering. Small files of different shapes and sizes according to the nature of the work are most useful for this purpose.

A sharp pocket knife can be helpful in some awkward places, although this is not really a jeweller's tool. He much prefers to use different shaped graters, a few of which are shown in the drawing at Fig. 1.

We now arrive at what is probably the most interesting process—the actual polishing job where the metal begins to assume its true beauty whether it is a matt surface or a highly polished one that we desire.

To produce a first-class finish we shall need a few buffs which can be made quite easily. Strips of wood about 8 in. long, $\frac{1}{4}$ in. thick and of various widths and shapes as shown in Fig. 2 are covered with different grades of emery cloth and soft leather strips. From medium to very fine for the emery cloth; and chamois leather is probably the best kind of leather to use. Stick them on with a thin glue and allow to dry well.

Unless the surface to be polished is very rough and badly scratched it will not be necessary to use the medium grade emery buff, but start with a fine one. Continue until all marks are removed, using the buff in one direction only.

We are now ready to start using the leather buffs. These are not used dry but must be charged with a polishing paste. Start with a mixture of pumice powder and thin lubricating oil well mixed and rubbed into the buff. Proceed with this until all the emery marks are removed.

It is then time to change to a finer

grade of paste, and for silver this can be putty powder (or stannic oxide as it is called) and oil. For gold articles rouge is usually employed although it can be used for silver if a warm tone is required.

Final Polish

For a final polish these two powders can be applied dry on a clean buff. The circular polishing buff described in a former issue of *Hobbies Weekly* is an excellent tool to use for the finishing process and the powder is again used dry on a wool buff or mop.

The polishing process can be stopped at any stage depending upon the type of finish required. Some articles look quite well in the rough state or with a matt finish. But it will be generally found that the very high polish will look best for most articles.

There is another very successful way of producing a matt finish which is very beautiful on silver. After using the emery buffs the work is finished with a slip of stone known in the trade as water-of-ayr stone (a good ironmonger should be able to supply this). Water is used as a lubricant on the stone and if the strokes are kept even a very pleasing



Fig. 2—Simple polishing buffs to make and use

finish can be attained.

It is not possible to polish all shapes of articles with a flat buff. A different method must be adopted for round shapes such as jump rings. Take about a dozen lengths of silk or wool and tie together at one end forming a loop which can be hooked over a nail. By holding the loose ends the article can be rubbed up and down the strands which are charged with polish in the same way as the buffs.

Only the fringe of the art of polishing and finishing precious metals has been treated in this short article. There are many other powders and polishing agents that can be used to obtain different finishes and it can be most interesting to experiment with these. Then by means of different chemicals it is possible to oxydise and colour silver to many delightful shades. (247)

Stamp Collecting—(Continued from page 364)

looking towards the centre of the stamp: There are designs on the 2 annas implying rejoicing crowds, on the 3½ annas a quill pen in an inkwell, on the 4 annas a very primitive plough, and on the 12 annas a spinning wheel. We illustrate the 2 annas.

No doubt readers of *Hobbies* have already noticed that the stamps of India

are not nearly so common as they were a few years ago. They are not likely to be either, for under the present constitution there are far fewer white people there so there will be fewer letters or parcels sent to this country.

Eire had a not very attractive design to commemorate the death of a poet, J. C. Mangan (1803-1849). France has,

on the other hand, a very nice portrait to commemorate Raymond Poincare. There does not seem, however, to be any reason for this for he was born in 1860 and died in 1934. As they have been giving us some portraits of famous Frenchmen lately it may be just one more of those.



Notes on New Issues

SINCE our last article on New Issues we have had some very attractive stamps adorning our letters. Although we cannot help reiterating that the United States of America is still issuing far too many new stamps on every possible occasion, the readers of *Hobbies Weekly* are lucky in that Mr. R. Gibbs sends specimens of these so they are available for illustration.

The Wright Brothers

First, we will mention the 6c. air stamp which shows portraits of the brothers Wright; Wilbur and Orville. They were born in 1867 and 1871 respectively. In 1903 they made a biplane, which is shown on the stamp and which for quite a long time was to be seen in the Imperial Institute in London. It is now back in U.S.A.

In this machine they flew for 59 seconds at the rate of 30 m.p.h.! (their first attempt was 12 seconds). It is an interesting air stamp but its claim to be the 46th anniversary of the first flight seems to be rather silly.

A Banker's Anniversary

Another stamp is for the 75th anniversary of the American Bankers' Association. It is a three-cents issue with the dates 1875 and 1950 on either side of the central picture. This picture appears to be inside a coin, for it shows the milling round the edge so we will assume that that is what it is intended to be. Inside one can see a picture of a factory and a farmstead, but whether these are to represent industry and agriculture is not very clear.

Then there is the three cents light blue, commemorating the sesquicentennial of the National Capital. It shows a

'Cannonball Express'. He started late in bad weather and was trying to make up time when a freight train suddenly appeared ahead. Jones told his fireman to jump clear to safety but he stayed on the footplate blowing his whistle and applying the brakes so the men on the freight train might have warning and time to jump clear of that train and so save themselves. He stayed to the end and when his body was recovered he was found still grasping the brake and the whistle. We seem to remember a popular song which also commemorated the event.

Currency Changes

There has been a change of currency in some of the West Indian Islands where they are using cents and dollars instead of pounds, shillings and pence. One of these is Barbados. Although some of her stamps in the past have been pictorial, most of them have been of the old chariot type.

Now she has twelve new pictures to give us. Each has a small medallion portrait of H.M. King George VI as well as the picture, that is except the highest value. The 1c. shows a picture of the old guns on Dover Fort, the 2c. is illustrated here and shows a picture of the breeding of sugar.

Breeding Sugar

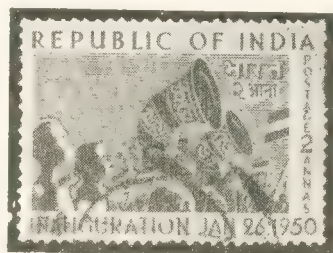
Quite a number of people seem to think that plants just grow from a seed which in their turn produce seed and so on. But there is quite a lot more than that. Man has had to work very hard to produce the type of seed he wants for a certain type of soil, or that he wants in a certain kind of climate. And here you see the way in which some of this work is carried out. Notice the bags which

monument to Nelson, but this appears to be rather doubtful as another island lays claim to have the particular oldest statue.

The 6c. is to us a very curious scene as it shows a native throwing a net from the beach into the sea. The way in which the net is entering the water, fully stretched out, should be noted. If we tried it then the net would be all of a heap and no fish would be caught.

Flying Fish

The inter-colonial schooner shown on the 8c. adds one more to our collection of beautiful sailing ships. How many more stamps can you think of which have



The Inauguration of a Republic

sailing ships on them? The 12c shows the flying fish which is such a novelty to those who sail for the first time in these waters.

The fish make spasmodic leaps or skip from the water by means of their enormously enlarged pectoral fins. These are not flapped like the wings of birds, but merely used as parachutes, the fish supplying the motive power by a strong flick of the tail as it leaves the water. Generally the flights are close to the water, but occasionally they come right on to the deck of the boat, and sometimes

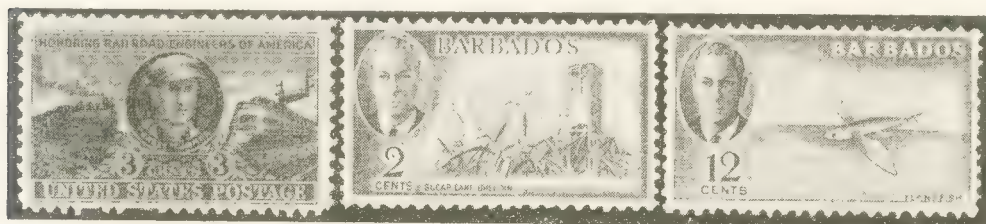
go as much as 150 yards on a flight.

The 24c shows the old main guard garrison and the 48c. a view of the Cathedral. The 60c. gives us a view which is unique in philately-careenage. The picture illustrates what the word means, for

there are some boats lying on their side so men can clean them and repair them. The \$1.20c. shows a map of Barbados with some wireless masts and the \$2.40c. the Royal Cypher and the Seal of the Colony. This is a very attractive set and one which is not very dear to buy.

India commemorates the Inauguration of the Republic by a set of four stamps on each of which there are two natives

(Continued foot of page 363)



Casey Jones, railroad engineer

Sugar Cane of Barbados

Flying Fish off Barbados

large picture of the Statue of Freedom, which is on the dome of the Capitol in Washington. The American specimen we have chosen to illustrate is one that has been issued to honour the Railroad engineers of America. The stamp shows two very different types of locomotive; the one on the right is a present day type while that on the left is fifty years old.

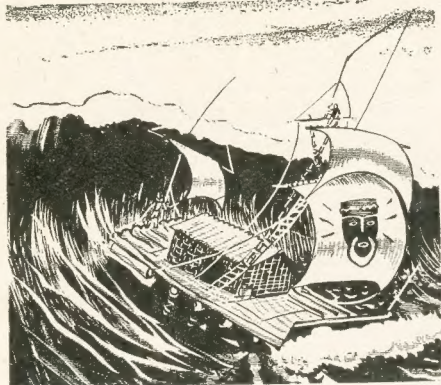
In the centre there is a portrait of Casey Jones who 50 years ago was driving the

have been placed over some of the flowers to keep them pure.

Buildings and Statues

There is nothing much to say about the 3c. They are public buildings about which one cannot enthuse unless they are either very old or very famous. The 4c. is an upright shape and shows a statue of Nelson. Some of the Barbados stamps have a view of what is said to be the first

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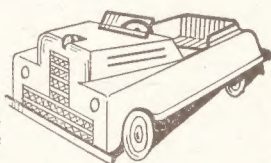
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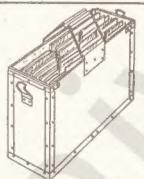
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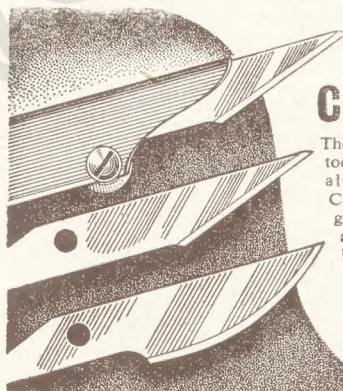
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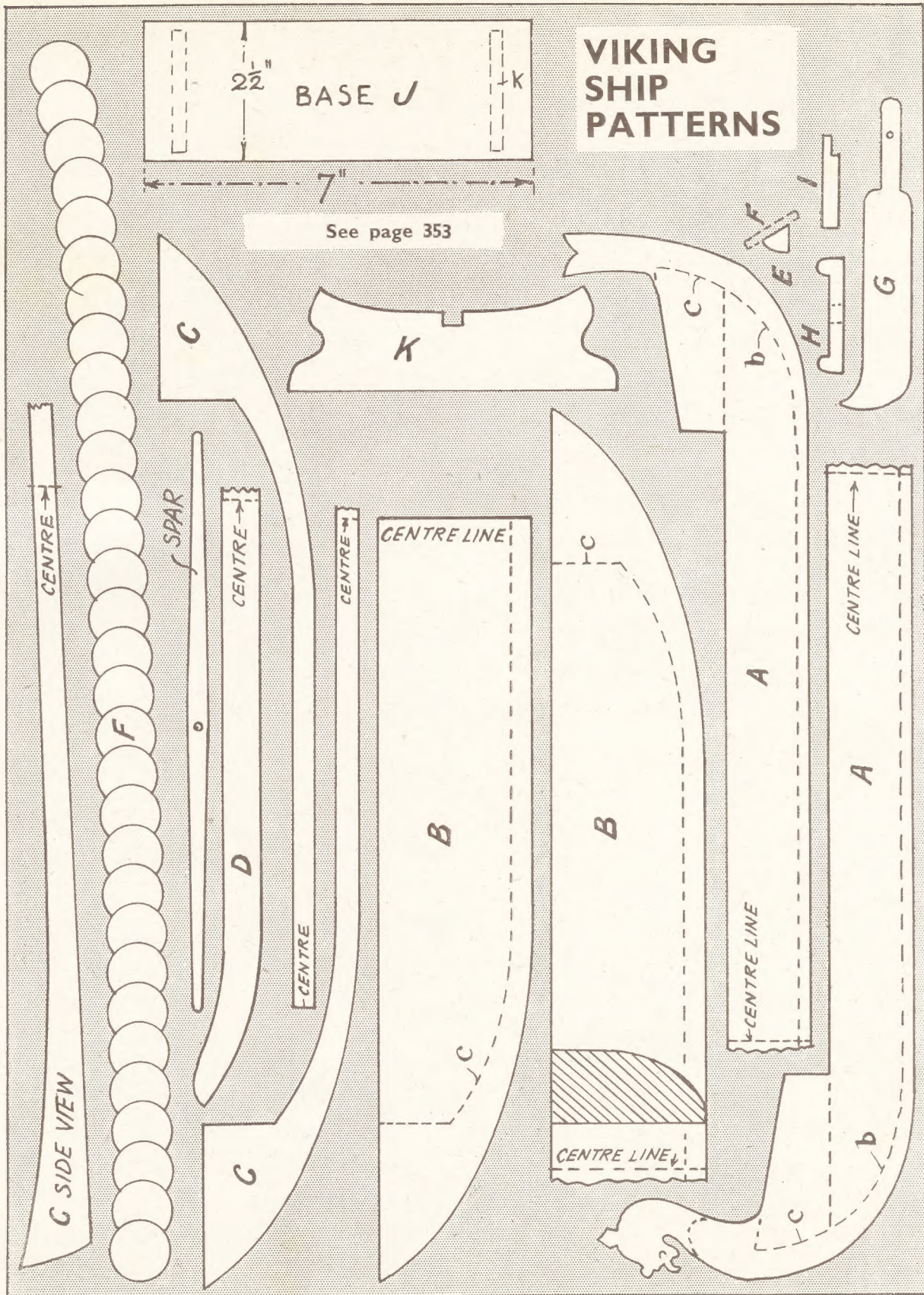
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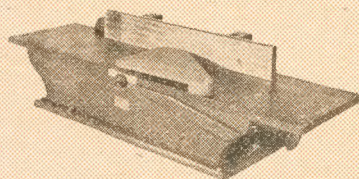
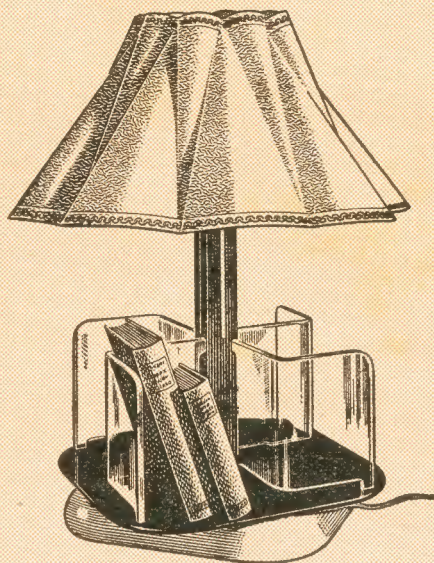
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